

WHAT IS CLAIMED IS:

1 1. A coke drum for a delayed coking unit, wherein said coke drum comprises:
2 a substantially closed interior;
3 a top portion of said drum having an aperture therethrough;
4 an overhead vapor outlet nozzle connected to said aperture; and
5 a deflector for deflecting solids and heavy hydrocarbon liquid from exiting said
6 interior of said coke drum through said aperture.

1 2. A coke drum as recited in Claim 1 wherein said deflector is removably connected
2 beneath said aperture.

1 3. A coke drum as recited in Claim 2 wherein said deflector is removably connected to
2 said overhead vapor outlet nozzle.

1 4. A coke drum as recited in Claim 3 wherein said deflector is sized to fit through said
2 aperture.

1 5. A coke drum as recited in Claim 1 wherein said deflector is a planar metal plate.

1 6. A coke drum as recited in Claim 1 wherein said deflector forms a cone having an apex
2 centered with and pointing toward said aperture in said coke drum.

1 7. The coke drum as recited in Claim 1 wherein said deflector is located at least one foot
2 (30.5 cm) from said aperture within said coke drum.

1 8. The coke drum as recited in Claim 1 wherein said deflector is located no farther away
2 than ten feet (3.05 m) from said aperture within said coke drum.

1 9. A method of reducing escape of solids and heavy hydrocarbon liquids from a coke
2 drum having a top portion with an aperture, an overhead vapor outlet nozzle connected to said
3 aperture, and means for deflecting solids and heavy hydrocarbon liquids from exiting said interior of
4 said coke drum through said aperture, said method comprising the steps of:

5 introducing hydrocarbon feed into said coke drum;

6 venting said coke drum through said aperture; and

7 reducing said amounts of solids and heavy hydrocarbon liquids from exiting said coke
8 drum by deflecting said solids and heavy hydrocarbon liquids from said aperture.

1 10. A method as recited in Claim 9 wherein said means for deflecting is removably placed
2 beneath said aperture.

1 11. The method as recited in Claim 10 wherein said means for deflecting is removably
2 connected to said overhead vapor outlet nozzle.

1 12. The method as set forth in Claim 9 wherein said means for deflecting includes a flat
2 planar plate.

1 13. The method as set forth in Claim 9 wherein said means for deflecting includes a cone
2 with an apex pointing to said aperture.

1 14. A method of reducing escape of solids and heavy hydrocarbon liquids from a coke
2 drum having a top portion with an aperture, and an overhead vapor outlet nozzle connected to said
3 aperture, which method comprises:

4 introducing hydrocarbon feed into said coke drum;

5 venting said coke drum through said aperture;

6 impinging said solids and liquid hydrocarbons on a deflector plate in said drum to
7 discourage escape of said solids and hydrocarbon liquids from said coke drum.

1 15. The method of reducing escape of solids and heavy hydrocarbon liquids as set forth
2 in Claim 14 wherein said deflector plate is a flat planar metal plate.